

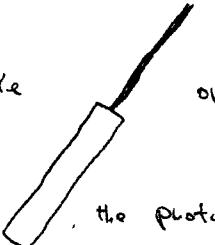
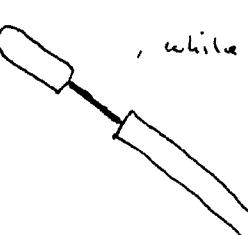
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA

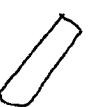
DIVISION OF BIOLOGY
KERCKHOFF LABORATORIES OF BIOLOGY

February 28, 1955

Dear Rosalind

I have recently returned from Berkeley ~~and~~ and the Virus Laboratory. While I was there, I saw some very pretty Electron Micrographs taken by Roger Hunt, a student of Robert Williams. They definitely establish that the RNA forms a central core, of diameter somewhere between 30 and 50 Å. What they do is to look at TMV particles which have been partially degraded by treatment with dodecyl sulfate for several minutes at 85°. After

this treatment many particles look like  or  , while if a ribonuclease treatment follows the heat-detergent  , the protruding fibers disappear.

and the degraded tails look like  or  . To complete the story

they have micrographs of X-protein [polymerized] which show ^{occasionally} rings on sections

of the following appearance  30-50 Å in diameter.

At the same time Don Casper has been calculating formulas from his Giesel Counter Data. He suspects the obvious sign combination is not correct but that a +, -, - + - assignment is more reasonable. It produces a high density shell at 22 Å which he

interprets as the location of the phosphate atoms, as well as a region of high density at 42A. When his data are more complete (we hope within 2 weeks) he shall send them to you. If true it's quite exciting as the arrangement of the RNA within the virus must be remarkably different than that found after extraction.

We are naturally curious as to what you are doing

With best regards,

Jim